

5 CLAIMS:

1. Adsorbent compositions for removing pesticides like chlorpyrifos, malathion and other organo halogen/sulphur pesticides comprising gold/silver nanoparticles having a size upto
10 150 nm deposited on activated alumina and/or magnesia.
2. Adsorbent compositions as claimed in claim 1, which is prepared by loading silver and gold nanoparticles on activated alumina and/or magnesia.
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3. Adsorbent compositions as claimed in claim 2, wherein said activated alumina or other substrates are in the various forms such as globules and powder.
- 20 4. Adsorbent compositions as claimed in claim 2, wherein the silver and gold nanoparticles are used along with activated carbon in all compositions.
- 25 5. A device for decontaminating water contaminated with pesticides like chlorpyrifos, malathion or other organo halogen/sulphur pesticides which comprises a housing loaded with gold/silver nanoparticles having a size upto 150 nm supported on activated alumina and/or magnesia, said housing provided with an inlet connectable to water supply source and an outlet for
30 decontaminated water, said outlet being provided with regulatory means.

- 5 6. A method of decontaminating water by removing pesticides such
as chlorpyrifos, malathion or other organo halogen/sulphur
pesticides comprising the step of allowing contaminated water to
flow through a bed of gold/silver nanoparticles having a size upto
150 nm supported on activated alumina and/or magnesia to
10 adsorb said pesticides and collecting decontaminated water
flowing out of said bed.